

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
10 March 2005 (10.03.2005)

PCT

(10) International Publication Number
WO 2005/022920 A1

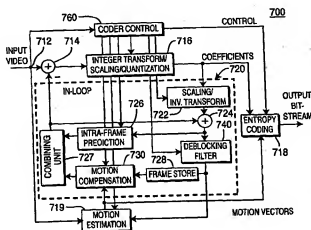
- (51) International Patent Classification⁷: H04N 7/26, 7/36
- (21) International Application Number:
PCT/US2004/027434
- (22) International Filing Date: 24 August 2004 (24.08.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/497,816 26 August 2003 (26.08.2003) US
- (71) Applicant (for all designated States except US): THOMSON LICENSING S.A. [FR/FR]; 46, Quai A. Le Gallo, F-92100 Boulogne-Billancourt (FR).
- (72) Inventors; and
(75) Inventors/Applicants (for US only): TOURAPIS, Alexandros [GR/US]; 20212 Heather Drive, West Windsor, New Jersey 08550 (US). BOYCE, Jill, MacDonald [US/US]; 3 Brandywine Court, Manalapan, New Jersey 07726 (US). YIN, Peng [CN/US]; 5508 Hunters Glen Drive, Princeton, New Jersey 08540 (US).
- (74) Agents: TRIPOLI, Joseph, S. et al.; Two Independence Way, Suite #200, Princeton, New Jersey 08540 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND APPARATUS FOR ENCODING HYBRID INTRA-INTER CODED BLOCKS



(57) Abstract: A hybrid intra-inter bi-predictive (or multi-predictive) coding mode allows both intraframe (intra) (301 in FIG. 5) and interframe (inter) (302 in FIG. 5) predictions to be combined together for hybrid-encoding a current macroblock or a subblock (310 in FIG. 5). Bi-prediction may be used also in I-pictures, combining two intra predictions that use two different intra prediction directions. A video encoder (700) processes data representing a two-dimensional video image which has been produced by a conventional commercially available video camera. The video encoder is adapted to select, for coding a current macroblock, between an intra encoding mode, an P-frame inter encoding mode, a B-frame bi-predictive inter mode, and a hybrid intra-inter bi-predictive encoding mode. A video decoder (800) receives and decodes a data stream that may contain a block/macroblock encoded in accordance with the hybrid intra-inter bi-predictive encoding mode.